370

HOUSE BUILDING IN THE HADHRAMAUT

W. H. INGRAMS

342 361 363 DURING a recent tour in the Hadhramaut my wife and I collected some notes on the building of houses. Each town in the country has its own individual characteristics. Although the houses of coastal towns are all of the familiar Arab type, built of stone rubble and whitewashed, there is a wide difference in the aspect of the towns themselves. Makalla, for example, is a miniature edition of Zanzibar—tall houses and narrow streets, sometimes not 6 feet across, while Shihr is a town of lower houses, wide streets, and open spaces.

361 342 353 In the Wadi Do'an the tall mud-built houses climb up the banks of the wadi. They are close packed, but it is in their interiors that they merit attention. The colour scheme is black and white and rusty red. Although there is practically no whitewash on the outside of Do'an houses the interiors of the better-class dwellings are spotlessly white. The ceilings of the rooms, which are lofty, are supported by carved pillars of *'elb* [1] wood, and all interior woodwork is of this material. The doors are set in wide heavily carved frames and the whole ornamented extensively with iron nails, 2 inches across the heads, burnished with lead, which shine like polished dollars. It is a modern development of Do'an houses that every room in the house should be provided with its own ablution room, and as a consequence they are really self-contained flats. The entrance door gives on to a passage into the flat, and there is usually not a door into the main living room but a Moorish arch either in the whitewashed wall or of stained *'elb* wood again studded with burnished nails. The ceiling is held up on rafters of *'elb* wood supported by the pillars previously referred to, the mud floor of the next storey above being laid over slats of date wood very attractively arranged in herring-bone pattern.

361 342 177 352 492 493 In Terim the principal feature is the large number of enormous dwelling-houses in a style copied from Malaya but built of mud bricks. The exterior of these houses is decorated with blue, green, yellow, and pink, which is not at all unattractive. Interiors are fitted with every up-to-date contrivance, electric light and fans, telephones, ice plants, and modern European conveniences in the bathrooms. Whereas in Do'an and Shibam there is scarcely a chair to be found these houses are replete with European furniture, albeit some of a rather florid style. Living in such houses as these one is struck at every moment with the reflection that there is hardly a thing in the house that has not had to be transported on camel back over the mountains for six days, and while I mention this it is worth recording that there are sixty cars in Terim itself, each of which has been transported in parts by twelve camels from the coast.

313 333 353 The principal structural detail that the wealthy Seyyids of Terim and Seyyun have to contend with in their building operations is the difficulty of getting long enough timber. The *'elb* or *sidr* tree trows to no great height, and although we found *'ariata* trees growing to 50 feet or more in height some days' journey down the Wadi Maseilah, they cannot be transported by

[1] The commoner Arabic name is *sidr*, *Rhamnus nabeca*.

4: Ingrams G-3 (no date) 1936 MM2 Hadfield MM2

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Later stage in house-building, Do'an

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Foundations of a house in Do'an, showing blood of the sacrifice

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313 camels. The difficulty is being got over to some extent by experiments in
333 making reinforced-concrete pillars, of which we saw two in construction at
353 Seyyun. All the work is done by local labour, the travelled Seyyids training their masons. The interior walls of these houses, apart from elaborate decorations such as gold crowns and coloured flowers, consist of a lime plaster polished by smooth pieces of flint till it resembles marble.

361 Shibam is remarkable for the height of its houses. The town, which is in
342 the shape of a capital D, contains in a small area five hundred houses built on
423 a slight eminence in the wadi. From a short distance the whole town appears
625 to be one enormous brown mud-built construction with a whitewashed top storey and roof. There is no further building room in the town, and the only way to have a new house is to buy an old one, knock it down, and rebuild.
344 The area of land required to build a house 45 *dhirras* in width by 35 in depth (a *dhirra*, or cubit, equals 1·5 foot) will cost 10,000 dollars, and having acquired the land the prospective builder will have to submit the specifications of his house for the approval of a committee of the townspeople who consider the position of windows and of gutters carrying water to the street. Subsequent alterations to a house must also be similarly approved. By general consent houses in Shibam are not now to be built more than six storeys high, in order to avoid overlooking. The only important existing exception to this rule is the Government palace, which is a storey or two higher but which is in such a position that it overlooks very little. On the top of the six storeys the builder may however erect a roofless seventh which gives him a walled-in roof terrace. The building of this house, which, when completed, will be 64 *dhirras* or 96 feet high, will cost more than 20,000 dollars.

333 The foundations are dug 2 *dhirras* deep below the surface of the earth and
342 3 *dhirras* wide. Stones are used for the foundation mortared together with a mixture of wood ash and lime. In places where there is any doubt as to the solidity of the ground on which the house is to stand long pieces of *'elb* wood are laid in pairs lengthwise in the foundations. Wood for this purpose must be cut in the winter; if this is done it is said never to rot. The stone foundation or *sās* is continued for 2 *dhirras* above the level of the ground. When the building operations have reached this stage a foundation sacrifice of a goat or sheep is made on the walls. The house is centred round a solid pillar built on the same foundation as the walls. For a house of the dimensions proposed this pillar or *'arus el beit* will be $3\frac{1}{2}$ by 3 *dhirras* wide and of the same thickness from top to bottom. The stairs of the house invariably go up round the *'arus*. The bricks are made of clay mixed with straw, the standard size being $1\frac{1}{4}$ *dhirras* in length by $\frac{2}{3}$ in breadth by 4 *banan* or fingers' widths in thickness. When the clay of the required consistency and thickness for making the bricks has been laid out they are cut out by a wooden frame which makes two bricks [435] at a time. The bricks cost five dollars a thousand.

The thickness of the walls of the first storey is $1\frac{7}{8}$ *dhirras*, of the second $1\frac{1}{2}$, of the third $1\frac{1}{4}$, of the fourth 1 *dhirra*, of the fifth $\frac{3}{4}$, of the sixth $\frac{5}{8}$, and of the seventh $\frac{1}{2}$ a *dhirra*. The bricks are mortared together with wet clay. As *'elb* wood grows to no great length the size of the room is determined to some [435] extent by the length of the pieces available as girders. The girders are usually very short and supported by carved pillars each costing about twenty dollars.

?: Sturler-Raemaekers T-S (1950-51) 1953 MM2 Hadhramaut MM2

TOWNS AND ARCHITECTURE OF THE HADHRAMAUT

By MRS. M. DE STURLER-RAEMAEKERS

Report of a lecture illustrated by a film delivered to the Society on Thursday, May 21, 1953, Mr. W. H. Ingrams, C.M.G., O.B.E., in the chair.

The CHAIRMAN: As you can well imagine, it is a great pleasure to me to take the chair this afternoon for Mrs. Sturler-Raemaekers, because I have spent ten years in the country which she is about to describe. Unfortunately, ever since I left it in 1944 time has done nothing but take me somewhere else in the world. I have just returned from a tour of the United States, Mexico, Central America and the West Indies. Most of my time seems to be taken up in Africa and it is difficult to get an opportunity of looking again at the Hadhramaut. Hence it is a great pleasure to be able to see Mrs. Sturler-Raemaekers' slides and to hear her account this afternoon.

I expect that in some respects at least the architecture of the Hadhramaut is familiar to many of you through Freya Stark's books, perhaps particularly the illustrations in her book *Seen in the Hadhramaut*; also Mr. Osbert Lankaster, an architect who many may know better as a cartoonist, wrote an article on the architecture of the Hadhramaut some years ago which appeared, I believe, in the *Architectural Journal*.

There is a very long tradition of architecture in the Hadhramaut. One wonders how long this wonderful working in mud has gone on. In ancient days the ancient Hadhraumauti used to go in for monumental stone masonry on a large scale. I remember seeing huge stones lying on the old Hadhramauti ruins and being told by the local people that the stones had been transported to the early buildings by the Adites, who were formerly giants. Hadhraumaut is a country which has always recognized the Book of Genesis, that there were giants in the land in those days.

Mrs. Sturler-Raemaekers was born in Holland and came to England as a child, first, during the first World War. Here she was educated, so we can at least claim part of her. Then she went to France and later came back to England to study architecture for three years at the Architectural Association. She took her degree in Brussels and practised there. Then she travelled a good deal in Europe. She returned to England again at the outbreak of the recent World War and has been here ever since except for her travelling. In 1948 Mrs. Sturler-Raemaekers thought she would go further afield and, fortunately for us and for Arabia, she chose to go there, but before doing so she took the precaution of studying Arabic for two years at London University.

Mrs. Sturler-Raemaekers spent ten months in the Hadhramaut in 1950-51 and was there again in 1952 for five months. She has told me, very modestly, that that is a very inadequate time in which to study the Hadhramaut, but I think we shall discover that she found out a great deal of much interest while she was there.

MY experience of the Middle East is, as you have heard, somewhat brief, being only three years. I therefore feel a little embarrassed when speaking before a gathering in which there may be many who have probably travelled there for much longer periods. I trust they will show some indulgence towards anything I may say which may not be either new or just as they saw it; I have at least specialized knowledge in one subject which took me there, and that is architecture. I went to study the buildings of Hadhramaut and make measured drawings of them. I do not intend to give a technical discourse on exactly how the buildings are constructed or how the bricks are made, because I do not think that this is

7: Stuzler-Raemaekers T-3 (1950-51) 1953 MM2 Hadhramaut MM2

133 a second miracle happens. There is a cleft in the great basalt plateau and
311 a beautiful green valley opens abruptly in the flat tableland—a valley running from east to west, joining the sea some 150 miles further on. This is a fertile valley with gardens and palm groves, millet fields and white palaces. An underground river continually provides water for the wells and the little irrigation channels. There are crops up to three times per year. In this lovely setting very civilized and well-dressed townsfolk live in large mud-built towns on the valley cliff sides. Recently they have laid aside their arms and ceased their blood feuds and tribal wars which raged from town to town, from tribe to tribe, from family to family. With the aid of the British adviser they have established law and order and made their foreign trade, which is their livelihood, flourish unhindered.

172 When we go back into history to find out where this miracle has sprung
341 from, we discover that there were the old Sabean and Hymyaritic civilizations of 1,000 or 2,000 years B.C., of which Mr. Ingrams spoke. Perhaps it started with the Minean Empire, on the eastern border of Yemen, and its capital, Ma'in. Later came the Sabeans with their capital a little south, at Marib; followed by the Katabaneans, whose centre, Timna, was at the south-eastern corner of the great desert. And lastly, perhaps, the Hadhramis, whose early capital may have been the much disputed Shabwa. These people built in stone, and their buildings were several storeys high and of very fine dry masonry. Many are the ruins covering the western territory between Aden and Hadhramaut and to the north in Yemen. But also in Hadhramaut itself, further east, there are vestiges of towns and temples, in the main valley and the side valleys; great plans of garrison cities, and remains of castle and palace walls in beautifully executed stonework, all erected perhaps some 2,000 years ago.

341 With such a tradition it is not surprising that something is still found
● 333 in the present day, and although the Hadhramis have not continued the stone masonry and have turned mainly to sun-dried mud bricks, their achievements are of remarkable interest.

101 Reviewing the various groups of the population, there are the bedouin
342 who still live by camel transport, the sand bedouin of the desert who live in simple black camelhair tents, and the bedouin mountain tribesmen who live on the arid plateaux. The latter are rugged and tough, like the country round them. Their life is hard; it is scorching hot without any shade in the day, bitterly cold at night at 6,000 feet. They still build their low windowless huts with brushwood roofs with the stones of the plateaux in dry walling. They carry on in their primitive way the stone tradition which has been lost elsewhere in the eastern area.

361 The next class of inhabitants we meet are the remote valley bedouin,
311 who live in rather better circumstances. They do have a little grazing,
342 cultivate a little land where they grow millet called dharrah and a sort of little cucumber-tomato called faguws. They live in the earthen beds of long-dried-up rivers that have a flood from the hills about once a year. They have grown lazy like everyone else, and they build their little castles
342 of mud bricks with a base of rough stones from the river-bed. A passage down the centre leads from the entrance door with almost windowless rooms for storage either side to a stair leading to a sheltered roof terrace.

7: Gaulon-Hadramauth T-3 (1950-51) 1953 MMZ Hadramaut MM.

361 a mound, is seven storeys and rises above the rest, the whole, like all
342 others, built in mud bricks.

In the centre, the space that is left, lie huddled the one-storeyed shops of the suq and the many-storeyed flat houses of the poor. Shibam seemed the only town where houses were occupied in flats. Elsewhere I saw almost exclusively one-family houses even if the family had many groups within it.

342 All houses in Hadhramaut have a strong inward slant from bottom to
333 top, which gives them a look of strength mingled with grace. There are no basements and barely foundations, but the ground floor is an almost solid base, so thick are the walls that taper towards the top. They may be almost 3 feet thick at the base for a tall castle, and a foot at the top.

In Shibam, the houses forming a solid rampart wall have windows at the two ends only, and a small light-well to light the stairs in the centre of the deep building. The ground floor usually contains granaries and stores. The straight flights of the stairs rise between thick walls with a very heavy
342 central block. On the first floor the Shibam citizen keeps his goats and
231 rabbits in the outside rooms, while the centre is occupied by more stores. About the second floor begin the living quarters—that is, the office and rooms of the men, stores in the centre again, and often with kitchen,
342 washroom, and lavatory. These washrooms and lavatories are systemati-
336 cally built over a central shaft, though water is mostly allowed to run from a gutter into the centre of the street. But there are "back" streets for the
342 sanitation and "front" streets for doors. About the third floor the private quarters begin. They would be men's living quarters, with the ladies on the floor above, the fourth, with kitchen and washrooms again; right on top, often little private quarters for the owner of the house where he may enjoy most fresh air. Each floor has a double set of windows, a large one down to the floor and a small square one for ventilation above, up against the ceiling, so that there are continual draughts running through the top of the room. Practically all rooms have windows on two sides, and with this and the thick walls and the smooth plaster they remain pleasantly cool.

342 The lower floors are usually the loftiest; even the ground floor store
363 rooms are up to 12 and 13 feet high. The house often has two entrances—
531 a large door for the men and a little one for the ladies, with separate stairs in the larger houses, even in Shibam where land is scarce. The façades are in rough mud brick, a uniform brown colour with a white plaster smooth base and white ornaments round windows and parapet, getting richer towards the top of the house, which is the best part of it.

Their plasterwork is one of their great arts. It is extraordinarily hard. To obtain this it is presumed to be mixed with date juice. When polished with a piece of flint and rubbed with a cloth for hours it acquires a lustre that makes it shine like marble. This is chiefly done inside the main rooms and in the washrooms and stairs. Outside it is only polished at the base, for water to run off. The ornamentation of the upper storeys is left
342 rough white. But as people's wealth increased they have abandoned this
531 form of very characteristic decoration, which divided the tall buildings in broad brown bands alternating with narrow white bands at window level.

B: Pike N-4 (no date) 1940 MM2 Hadhramaut MM2

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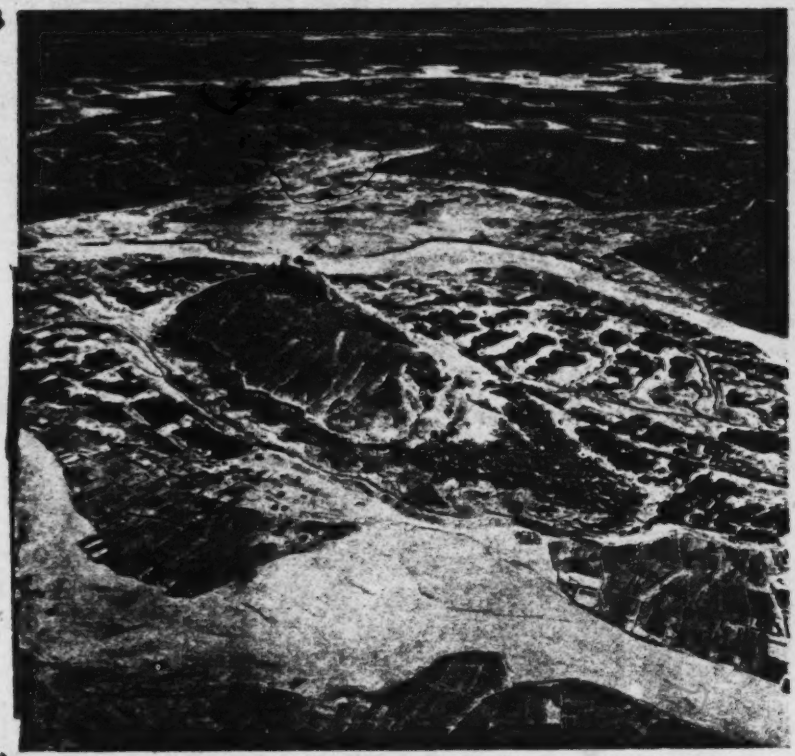

FIG. 11—Hajarein, the largest city in Wadi Du'an, is on one of the principal caravan routes between Mukalla and the Wadi Hadhramaut. Its site was obviously chosen with an eye to defense. Groves of cultivated date palms and millet fields may be seen amid a series of earthen retaining walls and irrigation ditches. As in other cities of the Hadhramaut, adobe brick is the building material.

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FIG. 12—A typical, fortified, Arab settlement on the banks of the Wadi Hajr. The irrigated groves of date palms furnish the main foodstuff.

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